

BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-I INFORMATION TECHNOLOGY : WINTER : 2024
SUBJECT: DIGITAL ELECTRONICS

Day : Tuesday
Date : 10/12/2024

W-27658-2024

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B. :

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data **WHEREVER** necessary.

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- Q.1 Describe the following codes in detail : (10)
i) BCD code
ii) Gray code
- OR
- Q.1 Convert following no's to binary, octal, and Hex binary system (10)
1) 85
2) 126
- Q.2 State Demorgan's theorem, describe in detail with suitable data. (10)
- OR
- Q.2 Minimize the following expression using K-map and implements using logic gates (10)
 $Y = \sum(1, 5, 6, 7, 11, 12, 13, 15)$
- Q.3 Describe the full Subtractor with suitable diagram. (10)
- OR
- Q.3 Design 1:8 Demultiplexer and write its applications. (10)
- Q.4 Describe SR flip flop in detail. (10)
- OR
- Q.4 Explain buffer register with suitable diagram. (10)
- Q.5 Describe Melay machine in detail. (10)
- OR
- Q.5 Differentiate Melay machine and Moore machine. (10)
- Q.6 Explain the architecture of PLA. (10)
- OR
- Q.6 Write short note on SRAM and DRAM. (10)

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